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## Frequently Asked Questions for Symantec C++ 8.x for Macintosh

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## **0.1 What is an FAQ?**

An FAQ, short for Frequently Asked Questions, is a compilation of the most common questions and answers about a subject. This is an established technique (adopted from its widespread use on Usenet) for reducing the repetition of questions and answers posted to our online technical support areas.

This FAQ answers as many commonly asked questions about Symantec C++ for the Macintosh as possible. That way you won't need to waste your valuable time and money leaving a question on an online service or calling Symantec Technical Support to learn about a readily available solution.

Symantec aggressively maintains each FAQ to ensure that it contains solutions to the most current product support issues. You are encouraged to read the FAQ before posting a message to an online service and incurring any charges. In most cases, you will find an answer to your question here.

This FAQ should not replace your manual or your program's built-in help. It is prepared and maintained by our technical support staff. It contains answers to questions our technical writing staff didn't anticipate.

If you were referred to this document by one of our technicians or another customer, keep in mind that they are trying to provide you with answers to your questions in a way that is most convenient, least expensive, and most accessible for you. If you have suggestions about how we can improve these FAQs, we want to hear from you. Please feel free to post your suggestions on one of our online support forums.

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## **0.2 What is the best way to get support from Symantec's online services?**

Technical support is available at <http://service.symantec.com>.

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## 1.0 GENERAL ISSUES

### 1.1 Which version of symantec c++ is suitable for my Macintosh?

If you have a Power Macintosh running System 7.5 or higher with at least 16 MB of RAM and a CD ROM drive, you should use Symantec C++ for Power Macintosh (version 8, release 5, available in CD ROM format only).

The Symantec Project Manager (SPM) is the heart of this integrated development environment (IDE). The SPM is a "fat" application. A "fat" application incorporates both PowerPC and 68K code in a single file enabling you to optimally run this application on a PowerPC or 68K Macintosh. On a 68K Mac, you need a CD ROM drive, at least 16 MB RAM, a 68030 CPU or higher, and System 7.5 or higher). You can develop both PowerPC and 68K applications using the SPM, but you need a PowerPC Mac to run any PowerPC application that you create. You can also merge your PowerPC and 68K code to form a "fat" application.

Symantec C++ for 68K Macintosh (version 7) will run on any 68K or Power Macintosh with at least 8 MB of RAM and System 7.0 or later. This development system enables you to create 68K applications only.

---

### 1.2 How do I add a new project type to the project models that appear in the New Project dialog box?

To add a new project type to the project models that appear in the New Project dialog box, follow these steps:

1. Create a new project.
2. Include the files and libraries you want, and compile it.
3. Copy the whole folder over to the Project Models folder.

4. Name the project file "@1". The "@1" will be replaced with the project name you specify.

**NOTE:**

If you have trouble, take a look at the existing project models to see the naming convention for the project files.

---

### 1.3 Can pointers to base classes be cast as pointers to derived classes?

Yes. Run-Time Type Identification (RTTI) allows the safe casting of base class pointers to derived classes. If the cast is not allowed, a NULL pointer is returned.

---

### 1.4 Why can't I use fopen to open more than 12 files?

There is a table that `stdio.h` defines for keeping track of open files. This table is defined as:

```
extern FILE __file[FOPEN_MAX];
```

with `FOPEN_MAX` previously declared as 15. (Three streams are reserved for `stdin`, `stdout`, and `stderr`.) To open more than 12 files, increase the value of `FOPEN_MAX` and recompile the ANSI library. Alternatively, you can use Mac Toolbox calls to open files as those files are not counted against the limit.

---

### 1.5 If I am mixing C and C++ code, should I turn on the option to use Native Floating Point format?

Yes. Symantec's C++ compiler is using the Native Floating Point format. To make sure that your floating point calculations give you the expected results, turn on Use Native Floating Point in the

options for the C compiler.

---

### **1.6 How do I use the cursor routines documented in *Inside Macintosh: Imaging with QuickDraw* with Symantec C++ 8.0?**

Add PPCToolLibs.o and StdCLib to your project.

---

### **1.7 Do I have to declare objects as "volatile" in TRY/CATCH macros?**

In the Bedrock Exception Library (BEL) macros, used in both v7.0.x and 8.x, when a TRY is executed all registers are saved. When CATCH is executed, the registers are restored to the saved state. If you change a value of a nonvolatile variable within a TRY block, it's possible that the value will be restored to what it was before the TRY executed when the CATCH is triggered. Using volatile variables forces the value to the saved to memory any time it's changed, instead of being cached in a register.

With native exception handling in Version 8, release 5 the state of the registers are saved prior to each function, or method call in the try block. If an exception is thrown by a method or function then the registers are restored to their state just prior to the to the function, or method throwing the exception. The THINK Class Libraries do not use native exception handling.

---

### **1.8 I want to add files to my project such as readme files and notes without having the project manager attempt to compile them. Is there any way to create an extension such as a .note extension in the SPM that doesn't use a translator?**

You can add any number of files you wish to the Project Manager without having to add any special extension to keep them from compiling with the rest of your source files. Currently, in

Symantec C++ 8.0, release 5, you can either:

1. Go to the Project menu and choose Add Files...
2. In the dialogue that comes up, there is a pop-up menu in the middle that says Show: Source Files. Click on this pop-up menu and choose "All Files."
3. You can now navigate with the dialogue, add in any file you wish to your project, and click "Done" when you are finished.

Alternatively, you can drag files from your desktop or other windows into your Project window in the SPM, by holding down the Command-key while dragging the file to your Project window.

---

### **1.9 How can I use exception handling without using the THINK Class Library?**

There are two methods of using exception handling without using the THINK Class Library: 1) Using the Bedrock Exception Library macros; 2) In version 8, release 5 only, using native exception handling, which is a superior method.

To use the Bedrock Exception Library (BEL) without the Think Class Library, you must include BRLib and Exceptions.cp in your project. Also, you must compile with the directive:

```
#define NO_TCL
```

The four macros used to make exception handling work correctly are:

```
AUTO_DESTRUCT_OBJECT
```

```
TCL_NEW
```

```
TCL_END_CONSTRUCTOR
```

```
TCL_START_DESTRUCTOR
```

The macro `AUTO_DESTRUCT_OBJECT` will guarantee that the destructor is called for an automatic object on the stack. A destructor will work only on a completely constructed object.



TCL\_END\_CONSTRUCTOR helps the compiler determine the complete construction of an object.

Refer to the following example to see how the macros are used.

```
class funClass TCL_AUTO_DESTRUCT_OBJECT //macro in class header
{
    public:
        funClass() { // no arg constructor
            cout<< 3In constructor.2<
            char * myStr = new char[64]; // allocate memory
            TCL_END_CONSTRUCTOR // End of the constructor
        }

        virtual ~funClass() { // virtual destructor
            TCL_START_DESTRUCTOR // Beginning of the destructor
            cout<< 3In destructor.2<
            delete [] myStr; // deallocate memory
        }
};
```

To use Native Exception handling in Symantec Project Manager for Symantec C++ version 8, release 5 you would need to enable exception handling in your code by checking the Exception Handling checkbox in the compiler's Language settings options page. The general form of the native exception handling is as follows:

```
void f()
{
```

```
    xxxx
```

```
    try{
```

```
        g();
```

```
    }catch(...) {}
```

```
}
```

---

### 1.10 Do I still have to use the pragmas for instantiation of static templates?

No. The compiler now accepts template explicit instantiation as outlined in the ANSI C++ draft standard (dated 9/26/95) Section 14.4 page 14-15. It is equivalent to the following statements:

#### Pre-8.1.0:

```
template <class T> void f(T t);
```

```
template <class T> class X { };
```

```
#pragma template_access public
```

```
#pragma template f(int)
```

```
#pragma template X<int>
```

**is equivalent to:**

```
template <class T> void f(T t);
```

```
template <class T> class X { };
```

```
template void f(int);
```

```
template class X<int
```

#### **NOTE:**

The old method of using #pragma template directives is still supported.


---

#### **1.11 Is there a way to speed up the linking of a 68K project in the release 5 Symantec Project Manager?**

Yes. We are using an external application called the ToolServer to invoke the LINK tool to perform the linking process. Since the ToolServer comes up in the background, link times are often longer than they need to be. To avoid this and to speed up linking time for your 68K projects, bring the ToolServer to the front during linking.

---

#### **1.12 How can I create a 68K code resource in the release 5 Symantec Project Manager?**

You will need the 68K Code Resource project model and files, which are available at the Symantec ftp site. Since the SPM currently creates a SIZE1 resource for 68K applications, you need to execute the \*Remove SIZE Resource\* AppleScript from the Script Icon menu (  ) after building your code resource.

---

#### **1.13 What is a fat application, and how do I create such a beast?**

An application is considered "fat" when it contains two versions of the same program. One version runs when the application is launched on a 68K Macintosh while the other launches only on a Power Macintosh. The Power Mac version of the code is said to be PowerPC native, meaning that it was compiled to take advantage of the fast PowerPC processor.

The following steps illustrate how to build a fat application.

1. Use the THINK Project Manager to create the 68K version of the application.
  2. Quit the THINK Project Manager and launch the Symantec Project Manager.
  3. Create a new PowerPC project.
  4. Add the source files from the 68K version to the PowerPC project. The resource file does not need to be added to the PowerPC project.
  5. Select the Options item from the Project menu.
  6. Click on the Project Type icon in the scrolling list of icons on the left of the Project Options dialog.
  7. Check the Merge 680x0 Application checkbox and click on the Select application... button.
  8. In the dialog box presented, select the 68K application created in step 1.
  9. Save these settings.
  10. Select Build Application from the Project menu. This will create a PowerPC native application merged with the 68K application (and resources).
- 

#### **1.14 I have over 110 MB of RAM yet whenever I try to launch the Symantec Project Manager I receive a -37 error. How can I get around this?**

This problem can be fixed quite easily with a bit of ResEdit magic. Quit the Symantec Project Manager and open it with ResEdit. Locate the STR# resource with an ID of 203 and double-click on it. Change item 2 to <Options> and item 3 to <Prefs>. Include the brackets around the text. Save the changes, and quit ResEdit. You have now finished tuning the SPM to run in a RAM-rich environment.

Symantec Internet/Development Tools also offers a patch on-line to do this adjustment to the STR# resource for you. It is at our Symantec FTP site, and you can download it by clicking here.

---

### 1.15 How do I convert a Pascal string to a C string and vice-versa ÷ the functions CtoPstr, and PtoCstr have been changed?

When converting Pascal strings to C strings use one of the following:

```
char *p2cstr( StringPtr theString );  
  
pascal Ptr P2CStr( StringPtr thePString );
```

To convert C strings to Pascal strings use one these:

```
StringPtr c2pstr( char *theString );  
  
pascal Ptr P2CStr( StringPtr thePString );
```

These are provided by the Toolbox and you should include Strings.h or TextUtils.h.

---

## 2.0 VISUAL ARCHITECT

### 2.1 Why do I get the link error Undefined Symbol: main (PPCRuntime.o) when I try to run my VA app?

Until the actual code is generated by VA, there is no main block in your project. The Project will still compile as you have discovered because the TCL sources are all perfectly happy by themselves. However, without the generated code containing main() {, } the linker will complain because your application has no entry point.

To remedy this problem, you need to go back into VA and select Generate All. Then recompile

and run again.

---

## **2.2 How do I make a PICTGrid in a Window using VA?**

Create the window you want to use. Temporarily create a tear-off menu view, and copy the PICTGrid from the menu, and paste it into your window. Then delete the tear-off menu.

---

## **2.3 How can I reduce the compile time of a new VA project?**

Open the "Project Models: Visual Architect:@1.\*" file, and compile it. From now on, the TCL files will be compiled upon the creation of a new VA project.

---

## **2.4 Do I need to recompile the ANSI++ library with 8-byte doubles to use it in a Visual Architect project?**

Eight-byte doubles are no longer required for VA (or other TCL) projects. The default VA project still ships with 8-byte doubles on, while the ANSI++ library ships with it off. It is OK to turn off this option in your TCL projects.

---

## **2.5 In Visual Architect, can I have main windows that are not based on CSaver?**

In Visual Architect 7.0.4, the code generation does not recognize the checkbox for the "Use File" option. The solution is to change the code in the "GenerateTCLApp" VA template file for documents as follows:

```

$elseif class.basename == "CDocument"$
$generate "Source:$class.name$.cp" "Doc_cp" once$
$generate "Source:$class.name$.h" "Doc_h" once$
$if class.view.usefile$
$generate "Source:ItsContents_$class.name$.h" "ItsContentsClass_h" once$
$generate "Source:CSaver_$class.name$.cpp" "CSaver_class_cpp" once$
$end if$
$define do_document 1$

```

---

**2.6 I am using the Think Class Library and Visual Architect to create a dialog box. When I run the generated application, I notice that the tab order for the CDialogText items is not correct. Is there any way to change the tab order without recreating my dialog box?**

Yes. Tab order is determined by the item numbers of the text boxes. For example, if you have three text items stacked vertically in your window and they are numbered, from top to bottom, 2, 7, and 3, pressing Tab in the top edit box (number 2) causes the cursor to jump to the bottom edit box (number 3) bypassing the middle text item (number 7). Another Tab press sends the cursor from item 3 to item 7. To display the item numbers, choose Show Item Numbers from the Views menu. You can change the tab order of CDialogText items in Visual Architect by selecting each item individually and choosing Send To Back and Bring To Front from the Pane menu. Bring To Front increases the item number and Send To Back decreases the item number.

---

**2.7 Why doesn't the Close box in VA app perform as the Menu-option Close or Cmd+W cmdClose. How can I override this mysterious TCL shortcut?**

The window's Close box circumvents the `cmdClose` command path that is normally issued after choosing the Close menu option. The close box issues a `CWindow::UserClose()` command, which calls `CWindow::Close()` and finally calls `CDirector::Close()`. At this point, your close click disappears into the forbidding domain of `CDirector`, having circumvented the command structure of the TCL.

Overriding this is fairly straightforward:

1. In the Visual Architect, create a new class in the Classes dialog window.
2. Call it what you like; "TmyWindow" would be a good choice.
3. Select `CWindow` from the Base Class popup menu, and close the Classes dialogue window.
4. From the main VA window, open your window or create one if you do not already have one.
5. Select View Info from the View menu.
6. Select your newly created derived class from the Window Class pop-up menu.
7. Once you generate your source code, you need to add a prototype in your header file and then go into the source file for your derived class and add the following:

```
void TmyWindow::Close() {
```

```
// Add your own supplementary Close handling routines here
```

```
// Call the inherited method to finally close the window.
```



```
inherited::Close();
```

```
}
```

Now when the Close box is clicked, your close method will be called. You then can add whatever housekeeping functionality you like.

---

## 2.8 Why doesn't my modal dialog box's cmdQuit button quit the application?

Note that it is considered bad programming style to quit an application by clicking a button. That behavior is reserved for the Quit item in the File menu. If, for some reason, you really want this behavior, you need to go into your upper level source for that dialog, and add the following class definition:

```
class myChore: public CChore {  
  
public:  
    myChore() {}  
  
    virtual void Perform( long *maxSleep ) {gApplication->  
};
```

Then modify the DoCommand function as follows:

```
myDialog::DoCommand( long theCommand ) {
```

```

myChore *theChore = new myChore();

switch ( theCommand ) {
    case cmdQuit:
        Close( true );
        gApplication->AssignIdleChore( theChore );
        break;

    default:
        x_myDialog::DoCommand( theCommand );
}
}

```

By setting up an idle chore, we assure that the dialog has a chance to close before the application quits.

---

## 2.9 How can I generate a Visual Architect project with side drag bars?

You'll need a copy of the Infinity Windoid WDEF 3.0 distribution (located on the release 5 CD at Third Party Goodies:Source/Libraries or from an Info-Mac site).

Let's create a new project just to demonstrate this solution. For reference, I'll refer to this new project as the demo.p project or simply demo.p. Of course, use the project model VA Application when creating demo.p.

Double click on Visual Architect.rsrc in the project window for demo.p and select New View... from the View menu. In the dialog box that appears, name the new view My\_Floater and select Floating Window from the View Kind pop up menu. Click OK.

You may now add whatever sort of buttons, text fields (editable or not), and other nifty user interface things. For this demo, don't bother getting fancy; I've simply added a couple of buttons and both an editable and non-editable text field.

Save and close the Visual Architect.rsrc window, and then open it again in ResEdit. Also open either the Infinity Windoid/Fat or the Infinity Windoid/PPC resource file in the Infinity Windoid WDEF 3.0 folder.

In the Infinity Windoid window, open the single WDEF Picker. Select the WDEF resource (there will be only one and it will have an ID of 128) and copy it. Bring the ResEdit window for Visual Architect.rsrc to the front and open the WDEF Picker. Paste the WDEF resource into the list of WDEFs.

Visual Architect should now show two WDEFs: one of ID 128 and another of ID 200. Quit ResEdit, saving the changes made to Visual Architect.rsrc.

Back in the project window for demo.p, double click on Visual Architect.rsrc. Open the My\_Floater view and select View Info... from the View menu. In the middle of the dialog box that appears, change the number in the field labeled procID to 2056. The WDEF ID should automatically change to 128. Click OK.

If you wish, you can try out the new view. Viola, it indeed has the side drag bar.

Save the changes in Visual Architect.rsrc, and select Generate All from the SPM Icon menu (  ). When VA is done generating the code for the project, you may quit VA.

Now we attach our new floating window to the main window so that we actually get to see My\_Floater. To this end, we need to add the some code to CMain.h and CMain.cp.

We'll start with CMain.h -append the following line to the method declarations of CMain:

```
virtual void MakeNewWindow( void );
```

Now onto CMain.cp. At the top of the file, right after the line which includes CApplication.h, add the following two lines:

```
#include "CMY_Floater.h"
extern CMY_Floater *gCMY_Floater;
```

At the bottom of the file add the following function:

```
void CMain::MakeNewWindow() {
    Point where = {50, 350};
    x_CMain::MakeNewWindow();

    gCMY_Floater->OpenWind ( where );
}
```

Save the file and run. When the applications starts up, both the Main window and the My\_Floater window will be visible.

---

## 3.0 THINK CLASS LIBRARY

**3.1 When I create a TCL application, is there any particular way that I need to segment my project?**

You can segment your application in any fashion, but you need to make sure that certain libraries

are in files that are never purged.

The following files and libraries must be in a resident segment:

- CApplication.cp
- Exceptions.cp
- LongCoordinates.cp
- TCLpstring.cp
- TCLUtilities.cp
- CPlusLib
- MacTraps
- MacTraps2

As delivered, the VA project model and the demos have MacTraps and MacTraps2 in purgable segments. This is because these projects don't contain any code that would unload these segments. If your code does any loading or unloading of segments, make sure to change the MacTraps segment so it is not purgeable.

---

### 3.2 How do I change the foreground and background color of a CStaticText?

Instantiate a pointer to your CStaticText object, or, if you are using VA, find where the object pointer is created in x\_CMain. Then use the following formula:

```
((CColorTextEnvirons)myCStaticText->itsEnvirons)->SetColorInfo(  
    *RGBColor forecolor, *RGBColor backcolor);  
  
// Notice we cast CEnvirons, a base class, to  
// CColorTextEnvirons, a derived class.
```

---

### 3.3 Why are my CEditText panes placed at seemingly random locations on the screen?

The coordinates you are setting for your CEditText object are not being interpreted as window coordinates. Have your object call `FrameToWindow(Rect *windowCoordinates)`. This will adjust the frame of the pane to the correct position on the screen.

---

### 3.4 Why doesn't the example in the manual for CArrayIterator work? I get the following:

```
File "CPtrArrayIterator_myClass.cp" Line 7
Error: 'gAncestors' is not a member of struct 'CPtrArrayIterator<myClass>'
File "CPtrArrayIterator_myClass.cp" Line 9
Error: unable to open input file 'CPtrArrayIterator.tem'
```

The example in the manual for CArrayIterator is incorrect. To correct it, do the following:

1. Remove the line for `TCL_DEFINE_CLASS`. You do this because the base class for CArrayIterator is not an RTTI class.
  2. Remove the `#include CArrayIterator.tem`. This file does not get created because you are no longer calling `TCL_DEFINE_CLASS`.
- 

### 3.5 How do I read in a CBitmapPane?

Try the following code segment. It reads a bitmap from a file and assigns it to a CBitmapPane object.

```
CPNTGFile *theFile = NULL;
SFTYPEList myList;
```

```
SFReply theReply;
```

```
Point where;
```

```
where.h=120; where.v=190; /* SF dialog window position */
```

```
myList[0]='PNTG';
```

```
SFGetFile(where,0,NULL,1,myList,0,
```

```
if(theReply.good) {
```

```
    theFile = new CPNTGFile; /* Make a File object and read the */
```

```
    theFile->SFSpecify( /* data into a new BitMap */
```

```
    theFile-
```

```
    theBitMap = ((CPNTGFile *)itsFile)-
```

```
    myBitMapPane-
```

```
}
```

---

### 3.6 Why is the arrow in a CarrowPopupPane not drawn in the center of the pane?

The horizontal setting was wrong in the Draw () routine in earlier versions of the TCL. The trick is to set the field signPt.h to 0;

```
void CArrowPopupPane::Draw(Rect *area) {  
    Point sicnPt;  
    sicnPt.h = 4; // set this to 0;  
    sicnPt.v = 7;  
  
    DrawSICN(TCL_SICN, POPUP_SICN, sicnPt);  
  
    CPopupPane::Draw(area);  
  
}
```

This was fixed in version 8, release 5.

---

### **3.7 Why is my window drawn with a different size than I expect when I use CDecorator::PlaceNewWindow()?**

PlaceNewWindow() resets the sizeRect data member of the window. You can override that functionality in a derived class or not use the CDecorator class to place your window.

---

### **3.8 How do I resolve this link error from using PutObject() and GetObject() with CSaver?**

To resolve this error, you need to create a source file called CStream\_myContents.cp. The



contents of this file should look something like the following:

```
#include "CStream.h"
#include "myContents.h"

#pragma template_access public
#pragma template PutObject (CStream&, myContents*)
#pragma template GetObject (CStream&, myContents*&)
#pragma template PutObjectReference (CStream&, myContents*)

#include "CStream.tem"
```

---

### 3.9 How do I make my TCL application scriptable?

Along with the code to handle AppleEvents, the flags for the SIZE Resource of the application must be set to receive Background NULL Events.

---

### 3.10 How do I trap CRadioControl commands within a dialog?

By default the values of radio buttons are not verified until a dialog box finishes the DoModalDialog() function. DoModalDialog returns a command of type long. At this point, the programmer should create a switch statement where the values of radio buttons are checked with the (CRadioGroupPane\*)FindViewById->GetStationID(theRadioDITL) method.

The problem with this style is that the values of the radio buttons are obtained after the dialog is

dismissed. Often, the programmer will want to have the changing values of radio buttons change the characteristics of items in the dialog itself. For example, a programmer may want the font of a CDialogText to change according to the settings of radio buttons.

The solution has four parts.

1. Set up your derived CDLOGDirector class so it owns the CRadioControl pointers. This gives you access to the radio buttons throughout your class.
2. When you instantiate CRadioControl, make a call to SetClickCmd(). Make sure to set each button with its own command. For the command to work, it must be something other than zero.
3. Do this: myRadio1->SetClickCmd( cmdFontGeneva).
4. Add a DoCommand() function to your derived CDLOGDirector class.

```
MyDialogDirector::DoCommand(theCommand) {  
    switch (theCommand) {  
        case cmdFontGeneva:  
            myDialogText- //Set font to geneva  
            break;  
  
        case cmdFontChicago:  
            myDialogText- //Set font to chicago  
            break;  
  
        default:  
            inherited::DoCommand(theCommand); //important
```

```
}
```

```
}
```

The default statement is extremely important for this construct. The inherited `DoCommand()` is trapped by `CDialogDirector` to process the OK and Cancel command. If you do not trap these commands or do not have an inherited method trap them, you will not be able to dismiss the dialog.

---

### 3.11 How do I change the font attributes in `CStdPopupPane`?

Changing the font of popup menus is not intuitively obvious. The process involves several steps.

1. Create a menu resource with a title and a menu item. Remember its ID number.
2. Instantiate your `CStdPopupPane`.

```
myPopUp = TCL_NEW( CStdPopupPane, (menuID, itsWindow, this,  
                                0, 0, 100, 100, TRUE, FALSE, FALSE) );
```

3. Make sure to `#include CTextEnvirons`. Then create a local pointer to a `TextInfoRec`, and fill the struct with the text information that you want in your popup.

```
TextInfoRec * myTextInfo = new TextInfoRec;
```

```
myTextInfo->fontNumber = 10;
```

```
myTextInfo->theSize = 12;
```

```
myTextInfo->theStyle = bold;
```

```
myTextInfo->theMode = qd.thePort-
```

4. Cast the itsEnvironment member of the CStdPopUpPane as a CTextEnvironments, allocate memory for it, and call the SetTextInfo() method.  

```
(CTextEnvironments*)myPopUp->itsEnvironment = TCL_NEW(CTextEnvironments, (FALSE));
```

```
((CTextEnvironments*)myPopUp->itsEnvironment) -
```
  5. Don't forget to delete the temporary variable myTextInfo.
- 

### 3.12 Why do I get a link error when I try to use TETSetWordBreak?

Below is an example of how to use TETSetWordBreak with the current Universal headers. The changes only apply to 68K use, you can use TETSetWordBreak directly when compiling for PowerPC. Basically the problem is that Apple doesn't provide the glue for the new routine name, but has written the universal headers as if they did.

```
#include <TextEdit.h>

// Need to undo the redefinition of SetWordBreak in the Universal
// headers when in 68K.
// Glue for SetWordBreak is in MacTraps, but there is no glue for
// TETSetWordBreak. We also need to redefine any calls using the new
// name for the same reason

#ifdef powerc
#undef SetWordBreak
extern pascal void SetWordBreak(WordBreakUPP wBrkProc, TEHandle hTE);
```

```
#define TETSetWordBreak(wBrkProc, hTE) SetWordBreak(wBrkProc, hTE)
#endif
```

```
pascal Boolean myWordBreaker(Ptr textPtr, short offset );
```

```
void foo() {
```

```
    TEHandle hTE;
```

```
    WordBreakUPP brk = NewWordBreakProc(myWordBreaker);
```

```
    // either of the following two are ok
```

```
    SetWordBreak(brk, hTE);
```

```
    TETSetWordBreak(brk, hTE);
```

```
}
```

```
pascal Boolean myWordBreaker(Ptr textPtr, short offset ) {
```

```
    if (textPtr[offset] == 's' )
```

```
        return true;
```

```
    else
```

```
        return false;
```

```
}
```

---

### 3.13 Why do I get bus errors when I create a CStyleText object by using the constructor with arguments?

In the process of upgrading the TCL to really be C++ classes, constructors with arguments were added to the classes. In this case, The constructor with arguments does not create a new handle to a TERC, the macTE data member of this object. To work around this, subclass CStyleText in the constructor of the new class call the IStyleTextX() function. For instance:

```
class MyStyleText : public CStyleText {  
    public MyStyleText() {  
        IStyleTextX();  
    }  
}
```

---

### 3.14 Isn't there a TCL archive somewhere?

You can now find its indices at <http://rhino.harvard.edu/dan/TCLArchive.html>, and the files themselves at <ftp://rhino.harvard.edu/pub/dan/TCL/>. If you have classes you want to add, send them as attachments in e-mail to Dan Crevier at [dan@rhino.harvard.edu](mailto:dan@rhino.harvard.edu).

---

## 4.0 STREAMS

### 4.1 Why do derived classes of ifstream cause a bus error when they read in a stream?

Any class that is indirectly derived for the virtual base class `ios` will need to call the constructor for `ios` explicitly in order to initialize the buffer into which the data stream is read. An example would look like this:

```
class myifstream : public ifstream {  
    myifstream(char * s) : ios(&buffer), ifstream(s){}  
}
```

---

#### **4.2 When I create a text file using `ofstream`, why can't Macintosh word processors open the file?**

For a word processor to recognize the text file, the file must have a recognizable file type and creator. First, you need to include `stdio.h`. Second, you need to initialize the globals `_ftype = 'TEXT'` and `_fcreator = 'txt'` before creating the text file. For example:

```
#include <stdio.h>  
  
#include <fstream.h>  
  
void main(void) {  
    FILE *fp;  
    _ftype = 'TEXT';  
    _fcreator = 'txt';
```

```
    ofstream textfile ("foo.txt", ios::translated);  
    textfile << "This is line "\nThis is line "\n
```

```
textfile.close();  
return 0;  
}
```

---

## 5.0 SYMANTEC DEBUGGER

### 5.1 How come the debugger palette buttons Go, Step, In, and so on are not active and the source code window doesn't open?

This behavior is a result of your application being compiled with incorrect 'SIZE' flags. The debugger requires that your project have Background Null Events and MultiFinder Aware checked on the Flags popup menu in the Project Type page of the Project Options dialog. Without these flags, Power Mac DebugServices cannot communicate with your application.

---

### 5.2 My code compiles and runs fine by itself, but if I run it with the Symantec Debugger and set a break point it crashes when it hits it. Any ideas?

Try resetting the Debugging information for your project by holding down the Option key as the Debugger is loading (right after selecting Run with Debugger.).

You can also try trashing the Symantec Debugger preference file in the Preferences folder in your System Folder.

---

### 5.3 How do I Debug 68K code generated from the release 5 Symantec Project Manager?



The Symantec C++ 8.0 release 5 CD includes an external debugger called, SourceBug, which allows source level debugging of 68K applications built with the Symantec Project Manager. Future releases of Symantec C++ will contain integrated 68K debugging support. Here are some steps to help you out:

1. Install SourceBug onto your hard drive by copying it from the Apple Software:Debuggers:SourceBug on your 8.0 release 5 CD.
2. Under the Project menu, choose Options... then go to the Linker page and select the Output option in the pop-up menu.
3. Check the option to Generate a Symbol file. The Generate a link file dialog box appears.
4. Select Full symbols. This causes a myProj.SYM file to be generated when you build the application.
5. Click the Build menu, and select Build Application.
6. Launch SourceBug by double-clicking on it from the Finder. It is located in the ".Apple Software:Debuggers:SourceBug 1.1.1:" folder.
7. From the Open dialog, open your 68K Application. The source code browser window appears.
8. Click on the [italic] main. in the stack crawl pane in the upper left.
9. Click on the function you want to debug in the pane to the upper right.
10. Set break point(s).
11. Select Run from the Control menu.

---

## 6.0 MISCELLANEOUS ERRORS

**6.1 I am using the Symantec Project Manager and while compiling my project, I see this error:**

Precompiled header does not match: RTTI settings different.

**How do I fix this?**

The RTTI (Runtime Type Identification) language settings for this project do not match those for the precompiled header. If you want the RTTI settings for this project to match the precompiled header, follow these steps:

1. Go to the Project menu, and choose Options...
  2. Click on the PowerPC C++ icon.
  3. Choose Language Settings in the popup menu.
  4. Set the checkbox next to Run-time Type Identification.
- 

#### **6.2 I see a NO FPU installed error when I run my program. How can I fix this?**

There are many reasons this error can appear. If you are using the THINK Project Manager on a Macintosh that does not have an FPU (Floating Point Processor), be sure to turn off the instructions in the Think C and Symantec C++ compiler options to Generate 68881 before you compile and run your program. This ensures that the 68881 floating point processor instructions will not be generated.

To turn these options off in the THINK C compiler select THINK C... from the Options submenu located in the Edit menu. In the dialog box which appears, select Compiler Settings from the popup menu. Uncheck "Generate 68881 instructions". Click OK.

To turn these options off in the Symantec C++ compiler select Symantec C++... from the Options submenu still located in the Edit menu. In the dialog box which appears, select Compiler Settings from the popup menu. Uncheck "Generate 68881 instructions". So long as "Generate 68881 instructions" is unchecked the status of "Use 881 for transcendental" is irrelevant. Click OK.

A more likely reason for this error is that your program is executing data or bad information rather than legal instructions. FPU instructions start with an F hex value. The program could be executing in an area of memory that contains data or random garbage and has encountered a word starting with an F hex value.

Common programming mistakes that result in the No FPU Installed errors include:

- disposing of memory that was not allocated
- exceeding allocated array bounds
- using `DisposeHandle()` on a resource handle (use `ReleaseResource()` instead)

For a more complete discussion on how No FPU Installed errors come about, please refer to the original Apple Developers' Technote on

<http://17.126.23.20/dev/technotes.shtml>.

Alternatively, you can try using various types of shareware or commercial software FPU emulations, to see if this resolves the problem. Two things to keep in mind: 1) The users of your software may not have the FPU emulation installed, so they might run into the error anyway; 2) Symantec takes no responsibility on the interaction of software FPU emulation software made by third parties with its products or with your particular system configuration in general.

---

### 6.3 Why do I get a bus error when I try to use the VIA timer option for the profiler?

The documentation states that the profiler uses the VIA timer, which ticks along every 1.28 microseconds. It goes on to state that IF you want to use Ticks (1/60 of a second) you can modify the profiler code to do so. The problem is that the VIA timer (Versatile Interface Adapter) is a processor that does not come on all Macintosh's.

You can use Gestalt to find out whether or not your machine has this processor (`gestaltHasVIA1` or for Mac IIs `gestaltHasVIA2`). If your machine has the processor, you should be able to modify `profile.c` to something similar to this:

```
#ifdef _VIATIMER_
```

```
#define Ticks VIA_Ticks()

#else

#ifdef __CONDITIONALMACROS__
#define Ticks IMGetTicks()
#endif
#endif
```

and then remove all the `#ifdef __CONDITIONALMACRO__` statements in `profile.c` and just use the Ticks assignments.

---

#### **6.4 I want to use MrC++ to build a VA application, but if I specify MrC and MrC++ as the translators, I get a bunch of undefined Bedrock symbols.**

MrC and MrC++ don't currently support the native exception handling of the Symantec C and C++ translators. However, by replacing `BRLib.o` and `PPCCPlusLib TCL.o` with `BrLib (non-native eh).o` (located at Sym C++ for Power Mac: THINK Class Library 2.0: Bedrock Exception Library) and `PPCCPlusLib TCL_BRLibeh.o` (located at Sym C++ for Power Mac: Standard Libraries: PPC Libraries), you can use MrC and MrC++ to generate your VA application.

---

#### **6.5 I'm getting this link error when building an application in the SPM:**

Toolserver's must occur in pairs.

#### **What causes it?**

Most likely, you have an apostrophe in a folder name located in the path to your project folder.

The name could be something like "Dave's Folder". ToolServer makes special use of the single quote character in pathnames. Removing the apostrophe will fix the problem.

Another option is in the Worksheet window, found under the Window menu in the Menu Bar, you can type "Set Echo 1", and send the command to ToolServer. After that, each build command sent to ToolServer will be echoed to a new text window. This can help debug what is being sent.

---

**6.6 I'm trying to update a project from 8.0.3 to 8.1, and I see the error message:**

File "InterfaceLib.xcoff"

Error: the file was not found.

**I also see similar messages for the MathLib.xcoff and ObjectSupportLib.xcoff. Why is this?**

You need to replace InterfaceLib.xcoff with InterfaceLib, MathLib.xcoff with MathLib, and ObjectSupportLib.xcoff with ObjectSupportLib. These libraries have changed from xcoff library stubs to actual shared library stubs so these files have lost the .xcoff extension. Remove the old libraries, and add the new versions, which can be found at Sym C++ for Power Mac:Macintosh Libraries:Shared Libraries.

This task has been automated by an AppleScript, "Replace .xcoff libs", found under the AppleScript Icon menu 

---

**6.7 My TPM project complains about not being able to find the ANSI library. What has changed?**

The following TPM library names have been changed in a minor but important way:

ANSI-A4

ANSI-A4++

ANSI-small

ANSI-small++

CPlusLib-A4

These libraries all formerly used em dashes (option-hyphen) in their names instead of the normal, shorter hyphens. Due to problems this causes on Japanese systems, the em dashes have been changed to regular hyphens. If you have projects accessing these libraries, you need to remove and re-add them for TPM to recognize the libraries with the new names.